Claims

What is claimed is:

1.   A surgical tool system, the system comprising:

a first hand instrument including a first signature discrete circuit element;

a control console connected to the first hand instrument, the control console including a memory device and instructions for identifying and controlling a plurality of hand instruments, including the first hand instrument,

wherein the first signature discrete circuit element is detected by the control console for identifying the first hand instrument.

2.   The surgical tool system of claim 1 wherein the first signature discrete circuit element is a first signature resistor.

3.   The surgical tool system of claim 1 wherein the control console further comprises an interface for transferring the instructions from a download source.

4.   The surgical tool system of claim 3 wherein the download source is diagnostic equipment.

5.   The surgical tool system of claim 3 wherein the download source is a personal computer.

6.   The surgical tool system of claim 3 wherein the download source is a removable storage device.

7.   The surgical tool system of claim 3 wherein the instructions are transferred over a network.

8.   The surgical tool system of claim 1 wherein the instructions for controlling the plurality of hand instruments include instructions for controlling the torque-speed curve of the first hand instrument.

9.   The surgical tool system of claim 1 wherein the instructions for controlling the plurality of hand instruments include instructions for controlling the torque of the first hand instrument.

10.   The surgical tool system of claim 1 wherein the instructions for controlling the plurality of hand instruments include instructions for controlling the power to the first hand instrument.

11.   The surgical tool system of claim 1 wherein the control console controlling of the hand instrument mimics a torque-speed curve of a pneumatically powered hand instrument.

12.   The surgical tool system of claim 1 wherein the control console mimics the torque-speed curve of any of a plurality of hand instruments without exceeding a maximal output of the control console and the hand instrument.

13.   The surgical tool system of claim 1 wherein the first hand instrument is without integrated non-volatile memory.

14.   The surgical tool system of claim 1 wherein the first hand instrument is without integrated memory.

15.   The surgical tool system of claim 1 further comprising a second hand instrument including a second signature discrete circuit element, wherein the instructions for identifying and controlling a plurality of hand instruments include instructions for identifying and controlling the second hand instrument and wherein the second signature discrete circuit element is detected by the control console for identifying the second hand instrument.

16.   A method of operating a surgical tool system having a control console connected to a first hand instrument, the method comprising:

identifying the first hand instrument connected to the control console;

responsive to the identification of the first hand instrument, selecting first instructions for adapting the control console for controlling the first hand instrument;

controlling the first hand instrument with the selected first instructions;

wherein identifying the first hand instrument comprises recognizing a first signature circuit element included in the first hand instrument.

17. The method of claim 16 wherein the first signature circuit element is a first signature resistor.

18. The method of claim 16 wherein the first signature circuit element is a first signature zener diode.

19. The method of claim 16 wherein identifying and controlling the first hand instrument is accomplished by the control console without reading stored data from the first hand instrument.

20. The method of claim 16 further comprising:

connecting the control console to a download source;

downloading upgrade instructions for modifying the first instructions;

controlling the first hand instrument with the modified first instructions.

21. The method of claim 16 wherein recognizing the first signature circuit element includes passing a current through a feedback network, wherein the feedback network comprises the first signature circuit element of the first hand instrument and a recognition circuit element of the control console.

22. The method of claim 21 further comprising:

polling the feedback network to detect a disconnection of the first signature circuit element and a connection of a second signature circuit element corresponding to a second hand instrument;

responsive to the detection of the connection of the second signature circuit element, selecting second instructions for adapting the control console for controlling the second hand instrument; and

controlling the second hand instrument with the selected second instructions.

23.   The method of claim 16 further comprising:

connecting the control console to a download source;

downloading third instructions from the download source for identifying and controlling a third hand instrument;

disconnecting the first hand instrument from the control console;

connecting the third hand instrument to the control console;

identifying the third hand instrument connected to the control console;

responsive to the identification of the third hand instrument, selecting third instructions for adapting the control console for controlling the third hand instrument;

controlling the third hand instrument with the selected third instructions.

24.   A surgical tool system, the system comprising:

a hand instrument without integrated non-volatile memory, the hand instrument comprising a motor for driving a dissection instrument;

a control console connected to the hand instrument, the control console including software for identifying the hand instrument and for providing a first set of hand instrument control parameters; and

a second set of hand instrument control parameters for replacing the first set of control parameters during an upgrade of the software.

25.   The surgical tool system of claim 24, the system further comprising:

a feedback network for identifying the hand instrument, the feedback network comprising a first resistor in the hand instrument and a second resistor in the control console.

26.   A control console, the console comprising:

a connector for connecting an instrument;

identification software for identifying a signature resistor in the instrument;

control software for maintaining a plurality of sets of operational parameters for controlling a plurality of instruments;

selection software for matching the identified signature resistor to one of the plurality of sets of operational parameters; and

operation software for operating the instrument within the selected set of operational parameters.

27.   The control console of claim 26 wherein

the selected set of operational parameters includes data corresponding to a performance curve and wherein the operational software operates the instrument along the performance curve.